To: Rob Runkel[runkel@usgs.gov]; Way, Steven[way.steven@epa.gov]
Cc: Wall, Dan[wall.dan@epa.gov]; Guy, Kerry[Guy.Kerry@epa.gov]
From: Christner, Jan
Sent: Thur 8/27/2015 6:22:44 PM
Subject: RE: New CC48 loading Analysis

I am also working on summary data and graphs for A68 and A72 that show historic concentrations vs. current.

Based on Rob's previous set of graphs showing concentrations along Cement Creek, Jamie Miller and I are working on graphs showing historic and current concentrations in the Animas from A72 to the southernmost sample station (I think it's Animas River at Lightner Creek. That information will be available later today.

-----Original Message-----
From: Rob Runkel [mailto:runkel@usgs.gov]
Sent: Thursday, August 27, 2015 12:12 PM
To: Steve Way
Cc: Dan Wall; guy.kerry@epa.gov; Christner, Jan
Subject: New CC48 loading Analysis

All -- If you're in touch w/ Steve, pls let him know about this email; I think he'll want to see it relatively soon.

Hi Steve --

As Jan says, its easy to get overwhelmed by all the data. I think I've found a way to simplify/summarize pre- vs. post-GKing data, or at least some of it. As we discussed the other day, its hard to interpret data from A72, due to variations in flow and concentration from the upper Animas (A68) and Mineral Creek. So focusing on Cement Creek helps. Working w/ the Total, Unfiltered data can also be a problem -- its typically pretty noisy, and may not reflect some of the effects of treatment (you may have reduced dissolved concentrations, but totals are still high due to the fact that things don't settle out very fast). So just looking at the dissolved data helps (this is especially appropriate for Cement, where pH is low and most metals are very soluble).

So I've attached a series of plots, created using Jan's spreadsheet ("CC48-CC06 Compared Loads.xlsx", sent to me Tues 25 Aug). Each plot has 3 sets of bars:

1) blue set -- 2009-2014 loads for CC48 during non-runoff periods; flows are comparable to August 2015, but generally lower (flows are indicated in parens on the x axis).

2) orange set -- 8/11-18/2015 loads for CC48

3) green set -- CC48 loads, w/ the measured load from the Gold King subtracted out.

Summary:

-- Loads are elevated due to the Gold King Discharge

-- Load increases are most pronounced for Cd, Cu, and Pb, consistent w/ my previous analyses/comments

-- If you subtract out the Gold King load, you're back to 2009-2014 levels

Hope this helps - Rob

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